On the Interpretability of Artificial Intelligence in Radiology: Challenges and Opportunities.

Abstract

As artificial intelligence (AI) systems begin to make their way into clinical radiology practice, it is crucial to assure that they function correctly and that they gain the trust of experts. Toward this goal, approaches to make AI "interpretable" have gained attention to enhance the understanding of a machine learning algorithm, despite its complexity. This article aims to provide insights into the current state of the art of interpretability methods for radiology AI. This review discusses radiologists' opinions on the topic and suggests trends and challenges that need to be addressed to effectively streamline interpretability methods in clinical practice. Supplemental material is available for this article. © RSNA, 2020 See also the commentary by Gastounioti and Kontos in this issue.